



RECEIVED

AUG 18 2003

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Keith V. Wood et al. Examiner: Rebecca E. Prouty  
Serial No.: 09/645706 Group Art Unit: 1651  
Filed: August 24, 2000 Docket: 341.005US1  
Title: SYNTHETIC NUCLEIC ACID MOLECULE COMPOSITIONS AND METHODS  
OF PREPARATION

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 19-0743.

The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Respectfully submitted,

KEITH V. WOOD ET AL.

08/15/2003 GWORDDF1 00000022 09645706

01 FC:1806

180.00 00

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. Box 2938  
Minneapolis, MN 55402  
(612) 373-6959

Date August 11, 2003

By [Signature]  
Janet E. Embretson  
Reg. No. 39,665

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 11th day of August, 2003

Name

Signature

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a notice that it is required by law.

PTO/SB/08A(10-01)  
Approved for use by the Patent Office, OMB 551-0031  
US Patent & Trademark Office, U.S. DEPARTMENT OF COMMERCE

Complete if Known

Application Number	09/645706
Filing Date	August 24, 2000
First Named Inventor	Wood, Keith
Group Art Unit	1651
Examiner Name	Prouty, Rebecca

AUG 18 2003

TECH CENTER 1600/2900

Sheet 2 of 2

Attorney Docket No: 341.005US1

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		LILJENSTROM, H., et al., "Translation Rate Modification by Preferential Codon Usage: Intragenic Position Effects", <u>J. Theor. Biol.</u> , 124(1), (1987), 43-55.	
		MALTER, JAMES S., et al., "Identification of an AUUUA-Specific Messenger RNA Binding Protein", <u>Science</u> , Vol. 246, (1989), 664-666.	
		PAN, W., et al., "Vaccine Candidate MSP-1 from Plasmodium Falciparum: a Redesigned 4917 bp Polynucleotide Enables Synthesis and Isolation of Full-Length Protein from Escherichia coli and Mammalian Cells", <u>Nucleic Acids Research</u> , Vol. 27, No. 4, XP000953100, (1999), 1094-1103.	
		PERLAK, FREDERICK J., et al., "Modification of the Coding Sequence Enhances Plant Expression of Insect Control Protein Genes", <u>Proc. Natl. Acad. Sci.</u> , 88, (1991), 3324-3328.	
		SHAW, GRAY, et al., "A Conserved AU Sequence from the 3' Untranslated Region of GM-CSF mRNA Mediates Selective mRNA Degradation", <u>Cell</u> , Vol. 46, (1986), 659-667.	
		SIMPSON, CRAIG G., et al., "Efficient Splicing of an AU-Rich Antisense Intron Sequence", <u>Plant Molecular Biology</u> , Vol. 21, (1993), 205-211.	
		SORENSEN, M A., et al., "Codon Usage Determines Translation Rate in Escherichia coli", <u>J. Mol. Biol.</u> , 207(2), (1989), 365-377.	
		TANAKA, M, et al., "Synonymous Codon Usage and Cost of Genetic Information", <u>Bull. Osaka Med. Coll.</u> , 34(1-2), (3-12), 1988.	
		TICHER, A, et al., "Nucleic Acid Compositions, Codon Usage, and the Rate of Synonymous Substitution in Protein-Coding Genes", <u>J. Mol. Evol.</u> , 28(4), (1989), 286-298.	
		VAN AARSSSEN, ROEL, et al., "cry IA(b) Transcript Formation in Tobacco is Inefficient", <u>Plant Molecular Biology</u> , Vol. 28, (1995), 513-524.	
		WAIN-HOBSON, S, et al., "Preferential Codon Usage in Genes", <u>Gene</u> , 13(4), (1981), 355-364.	
		WILSON, TIM, et al., "Removal of Poly(A) and Consequent Degradation of c-fos mRNA Facilitated by 3' AU-Rich Sequences", <u>Nature</u> , Vol. 336, (1988), 396-399.	

EXAMINER

DATE CONSIDERED

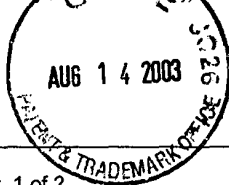
Substitute Disclosure Statement Form (PTO-1449)

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)



Sheet 1 of 2

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid control number.

Complete if Known

Application Number	09/645706
Filing Date	August 27, 1999
First Named Inventor	Wood, Keith
Group Art Unit	1651
Examiner Name	Prouty, Rebecca

Attorney Docket No: 341.005US1

RECEIVED  
AUG 18 2003  
TECH CENTER 1600/2900

**US PATENT DOCUMENTS**

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-6,130,313	10/10/2000	Li, Xianqiang	530	324	04/17/1998
	US-6,306,600	10/23/2001	Kain, Steve, et al.	435	6	07/30/1999

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T <sup>2</sup>
--------------------	---------------------	------------------	---	-------	----------	----------------

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		BATT, DAVID B., et al., "Polyadenylation and Transcription Termination in Gene Constructs Containing Multiple Tandem Polyadenylation Signals", <u>Nucleic Acids Research</u> , Vol. 22(14), (1994), 2811-2816.	
		BERNARDI, G., et al., "Codon Usage and Genome Composition", <u>J. Mol. Evol.</u> , 22(4), (1985), 363-365.	
		BULMER, M., et al., "Codon Usage and Secondary Structure of MS2 Phage RNA", <u>Nucleic Acids Res.</u> , 17(5), (1989), 1839-1843.	
		BULMER, M., et al., "Coevolution of Codon Usage and Transfer RNA abundance", <u>Nature</u> , 325(6106), (1987), 728-730.	
		DEAN, CAROLINE, et al., "mRNA Transcripts of Several Plant Genes are Polyadenylated at multiple sites in vivo", <u>Nucleic Acids Research</u> , Vol. 14(5), (1986), 2229-2240.	
		FERBITZ, L., et al., "A Synthetic Gene Coding for Renilla Luciferase is a Versatile Expression Marker in Green Algae", <u>Database EBI</u> , Database Accession No. AY004213 XP002230923 (2000).	
		FIERS, W., et al., "On Codon Usage (Letter)", <u>Nature</u> , 277(5694), (1979), 328.	
		FUERST, THOMAS R., et al., "Structure and Stability of mRNA Synthesized by Vaccinia Virus-Encoded Bacteriophage T7 RNA Polymerase in Mammalian Cells Importance of the 5' Untranslated Leader", <u>J. Mol. Biol.</u> , 206, (1989), 333-348.	
		GOUY, M., et al., "Codon Usage in Bacteria: Correlation with Gene Expressivity", <u>Nucleic Acids Res.</u> , 10(22), (1982), 7055-7074.	
		GREEN, PAMELA J., "Control of mRNA Stability in Higher Plants", <u>Plant Physiol.</u> , Vol. 102, (1993), 1065-1070.	
		HOLM, L., et al., "Codon Usage and Gene Expression", <u>Nucleic Acids Res.</u> , 14(7), (1986), 3075-3087.	
		IKEMURA, T., et al., "Codon Usage and tRNA Content in Unicellular and Multicellular oOganisms", <u>Mol. Biol. Evol.</u> , 2(1), (1985), 13-34.	
		KIM, C. H., et al., "Codon Optimization for High-Level Expression of Human Erythropoietin (EPO) in Mammalian Cells", <u>Gene</u> , Vol. 199, No. 1-2, XP004126394, (1997), 293-301.	

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached